

IN THE UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF INDIANA
FORT WAYNE DIVISION

REPUBLIC SERVICES OF INDIANA)
LIMITED PARTNERSHIP,)
)
Plaintiff,)
vs.)
)
COE HEATING & AIR CONDITIONING,)
INC.)
)
Defendants.)

Case No. 1:21-cv-108-HAB-SLC

**DEFENDANT COE HEATING & AIR CONDITIONING, INC.'S MEMORANDUM
OF LAW IN SUPPORT OF ITS MOTION TO EXCLUDE
TESTIMONY OF PLAINTIFF'S EXPERT JAMES FOSTER**

COMES NOW Defendant, Coe Heating & Air Conditioning, Inc. ("Coe"), by counsel, Christopher J. Uyhelji and Martin J. Gardner of Gardner & Rans P.C., and respectfully submits the following Memorandum of Law in Support of its Motion to Exclude Testimony of Plaintiff's Expert James Foster under *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993) and the Federal Rules of Evidence.

I. SUMMARY OF ARGUMENT

Republic's Fire Investigator James Foster is not qualified to rule out an electrical cause of the fire as he is a fire investigator, with an educational background in fire investigation, and not an electrical engineer. Republic's retained electrical engineer, John Diggle, could not rule out electrical as the cause of the fire. Foster's methodology for determining the point of origin for the fire at Republic's Building 1 is unreliable. The primary factor for Foster determining the "possible" origin of the fire in the paint area ceiling is that the infrared tube heaters were installed near the ceiling of the paint area. This is consistent with Foster's overall methodology to investigating the fire, which was to summarily disregard any data that conflicted with his predetermination that the

infrared tube heaters were the cause of fire. Foster's methodology in arriving at his opinion as to the possible origin of the fire does not comply with the systematic approach under NFPA (National Fire Protection Agency) 921 guidelines and is deficient under reliability requirements for expert testimony in the 7th Circuit.

Likewise, Foster's methodology for determining the cause of the fire at Republic's Building 1 is unreliable. Foster failed to "bridge the analytical gap" between the data and his contested conclusion. Further, Foster's conclusion rested entirely upon his unproven assumptions that Sheboygan Blue Aqua Enamel Paint accumulated on the infrared tube heaters before the fire (as opposed to during or after the fire) and that the water-based Paint is flammable or combustible. Foster did not test his hypothesis and failed to test the flammability and combustibility of the Paint. As outlined below, and in Coe's contemporaneously filed Motion for Summary Judgment, the water-based Sheboygan Blue Aqua Enamel Paint is not flammable or combustible in the Paint's wet, dry, liquid, or solid form in real-world conditions. In short, there is no "rational connection" between Foster's data and his causation opinion. Further, Foster's methodology and resulting opinions do not meet the reliability test of *Daubert* as they lacked adequate factual support and are nothing more than unsupported speculation.

II. FACTUAL BACKGROUND

On or about March 19, 2019, at approximately 11:15 p.m., a fire started inside the maintenance area ("Building 1") of Republic's operations buildings located at 6231 Macbeth Rd., Fort Wayne, Indiana. On or about March 19, 2019, a fire destroyed Republic's Building 1 and the building collapsed upon itself.¹ James Foster was retained by Republic the day after the fire to

¹ Plaintiff's Amended Complaint, ¶ 21.

“determine the origin and cause of the fire and determine if recently installed heaters contributed to the cause.”²

Republic’s Fire Investigator James Foster’s Opinion

Foster’s origin and causation opinion is as follows:

The cause and origin of the fire is a direct result of open infrared tube heaters installed in an area where painting and other procedures are *[were]* performed. The installation of is type of heater is not recommended in this environment (*See expert report of Nicholas Ozog*). Paint and other flammable products used in the repair of trash dumpsters collected on the tube heaters and ignited.³

Later in his Report, Foster opines that the discoloration of the metal indicated the fire started high in the building and that “[i]nformation from employees indicted [sic] the fire was high in the building upon discovery....[t]his combined with the fire damage to the south heater that was at ceiling level indicate the possible location of the fire origin.”⁴ (emphasis added). According to interviews with unidentified employees of Republic, Foster concluded that “electrical components turned off at the time of “fire inside Building 1”.⁵ Foster also states that “[a]nother unidentified heating and air company had been consulted to install the style of heat in the building and advised against this type of heater use in the area due to welding and paint operations.”⁶ He states further that the “area there [sic] the heaters were installed was considered the welding and paint area” and “did not meet NFPA code or compliances of a spray booth.”⁷

While he found evidence of smoking in and around fire site, Foster ruled out discarded smoking materials and prior welding in Building 1 through the passage of time.⁸ In summary

² James Foster’s Report of December 3, 2019, p. 1 and C.V. are attached as Exhibit A.

³ Ex. A, p. 2; James Foster’s Expert Report of November 18, 2022, p. 2 is attached as Exhibit B (italics indicate changes in November 18, 2022 Report).

⁴ Ex. A, p. 3.

⁵ Ex. A, p. 3; Ex. B, p. 5.

⁶ Ex. A, p. 2.

⁷ Ex. A, p. 2.

⁸ Ex. B, p. 5.

according to Foster, “other potential ignition sources were identified in the general area of the fire origin. However, these other potential sources were ruled out due to their location and origin location.”⁹

Fire Investigator James Foster’s Deposition Testimony

Foster opined during his deposition that it was the dry Sheboygan Blue Aqua Enamel Paint that collected on the tube heaters and ignited.¹⁰ Foster admits that he does know the sequence of events of combustibles past the dry Sheboygan Blue Aqua Enamel Paint on the infrared tube heaters.¹¹ Foster never tested the flammability or combustibility of the Sheboygan Blue Aqua Enamel Paint in the Paint’s wet, dry, liquid, or solid form relative to his hypothesis.¹² Foster did not include the flame test results for the Sheboygan Blue Aqua Enamel Paint of Republic’s Fire Debris Forensic Scientist Sheree Wells in his Reports, which were negative.¹³ Foster also did not acknowledge the opinion of Republic’s Electrical Engineer, John Diggle. Diggle testified that he could not rule out electrical as a cause of fire due to the extensive damage to the electrical systems.

Foster testified that no one requested collection of the electrical system and that it was not necessary.¹⁴ Foster used statements from Republic employees to conclude that no one was in the area past 4:00 p.m. and that everything but the heaters was turned off at the time of fire.¹⁵ Foster testified that the electrical was not shut off to the building.¹⁶ Foster testified that there was no testing done of the electrical components, including electrical panels.¹⁷ Foster testified that the “unidentified heating and air company” mentioned in his Report was Korte and that the

⁹ Ex. B, p. 5.

¹⁰ Deposition of James Foster is attached as Exhibit C, p. 105-106, 123-125, 199-201.

¹¹ Ex. C, pp. 377, 380-381.

¹² Ex. C, pp. 125-126.

¹³ Ex. C, pp. 123-124.

¹⁴ Ex. C, pp. 186-187.

¹⁵ Ex. C, pp. 111-112.

¹⁶ *Id.*

¹⁷ Ex. C, pp. 163-164.

information was told to him by a Republic employee.¹⁸ He was not aware that contrary to his belief Korte actually quoted the same closed infrared heating tube system to Republic.¹⁹ He also admitted that the area where the heaters were installed was not a paint booth.²⁰

Foster collected paint off of the heaters on his own at the scene on May 10, 2019 without properly documenting the evidence collection through photographs or any other reliable method, including identifying exactly where the paint samples were from on the heaters.²¹ This is contrary to the timing and method of collection identified in his written Reports. He was also unable to properly identify any photographs of the heaters where on the heaters the paint was supposedly located or where he collected the samples from on the heaters.²² Foster was equally unable to adequately account for when the paint actually got on the heaters—specifically whether the supposed paint accumulated on the heaters before the fire, or the more likely scenario, whether paint accumulated on the heaters after the fire, the building collapsed, fire suppression efforts, and the heaters laid unprotected from the elements in the fire debris for approximately two (2) months before the alleged collection.²³ This was addressed by the other two (2) fire investigators, Michael Vergon and Michael Agosti, involved in the investigation of the fire at Building 1.

Foster testified during his deposition that his Reports should have stated probable instead of possible.²⁴ However, he had no explanation for why his two (2) Reports, one from December

¹⁸ Ex. C, pp. 76-78.

¹⁹ Ex. C, p. 83. Korte, a heating company, quoted the same infrared tube heating system to Republic. Korte concluded that the Space Ray closed infrared tube heaters appropriate for the painting area of Building 1. See Deposition of Trevor Miller is attached as Exhibit D, pp. 47-48, 59-61, 63-64 and Korte Proposal.

²⁰ Ex. C, p. 181.

²¹ Ex. C, pp. 77-80, 369-372, 383, 385

²² *Id.*

²³ Ex. C, pp. 122-123, 373; Deposition of Michael Vergon is attached as Exhibit E, pp. 68-72; Expert Report of Michael Agosti and C.V. is attached as Exhibit F, pp. 5-6; Deposition of Sheree Wells is attached as Exhibit G, pp. 66-67; Deposition of Laurel Mason is attached as Exhibit H, p. 107 Expert Report of Laurel Mason and C.V. is attached as Exhibit I, pp. 7-10.

²⁴ Ex. C, pp. 204.

of 2019 and one from November of 2022 were never changed or corrected to identify the probable point of origin instead of the possible place of origin.²⁵

Fire Investigator Michael Vergon's Opinion of James Foster's Methodology

Vergon's opinion is that "Investigator Foster had predetermined the cause of the fire before fully conducting adequate investigation and research, and disregarded the opinion(s) of Rimkus EE Lou Inendino [John Diggle]."²⁶ According to Vergon, "Investigator Foster has exhibited expectation bias in his investigation, which has also resulted in confirmation bias in exclusively relying on data that supports his hypothesis and fails to look for, ignores, or dismisses contradictory or nonsupporting data."²⁷ Vergon stated further:

Investigator Foster cannot eliminate other potential ignition sources merely because there is no obvious evidence for them. Other potential ignition sources include discarded smoking material, failed or overhead electrical components, or not properly stored or discarded rags containing paint thinner or other liquids susceptible to spontaneous combustion. There is data presented in this matter in which all three of these potential ignition sources were or could have been present.²⁸

Vergon opined further that "Investigator Foster does not document making any attempt to discount these possibilities, and ignored the opinion of his electrical engineer who stated that the structure's electrical system could not be eliminated as a cause of the fire."²⁹ Vergon also addressed Foster's misuse of data and methodologies during his deposition, including failure to properly eliminate an electrical cause of the fire and discarded smoking materials.³⁰

Fire Debris Forensic Scientist Laurel Mason's Opinion of James Foster's Methodology

²⁵ Ex. C, pp. 253-254.

²⁶ Expert Report of Michael Vergon and C.V. is attached as Exhibit J, p. 23.

²⁷ *Id.*

²⁸ Ex. J, p. 27.

²⁹ Ex. J, p. 27.

³⁰ Ex. E, pp. 36-37, 42-43, 47, 63, 68-69, 72-74, 78-81, 87, 102-104.

In her Report, Mason stated the following:

The analysis and opinions of Mr. Foster are rooted in speculation and data that are not applicable and incomplete. While the presence of aromatic products and petroleum distillates is expected to be present in the Medium Blue WR Protective Enamel used, based on the analysis of the liquid conducted by Ms. Wells, and the review of the SDS, there is no indication that the levels in the product are sufficient to be ignitable or communicate a fire. In Mr. Foster's December 3, 2019 Report of Findings, and in his November 18, 2022, Expert Report, he concludes "paint and other flammable products used in the repair of trash dumpsters collected on the tube heaters and ignited."³¹

According to Mason, Foster "inappropriately determined" that:

the building in which the fire occurred was a paint booth, and the use of the tube heaters were prohibited. Mr. Foster does not acknowledge that the plain language definition of paint booths, paint areas, etc. as stated in NFPA 33 shows the building did not meet the requirements of this Code. His report does not reconcile how "paint and other flammable products" survived on the very object he claims to have been the cause of the fire while other painted surfaces were consumed. Moreover, he does not describe how "paint and other flammable products" were the cause of the fire to the exclusion of other known sources of ignition in the building. His opinion that the installation of the Space-Ray® tube heater was prohibited, and its subsequent use was the cause of the fire is speculative, has no scientific basis, and is unfounded.³²

Mason confirmed during her deposition that she is challenging Foster's methodologies and conclusions.³³ Mason also concluded within a reasonable degree of scientific certainty in her field that the Sheboygan Blue Aqua Enamel Paint does not support combustion in either liquid or solid form.³⁴

Fire Investigator Michael Agosti's Opinion of James Foster's Methodology

Agosti states in his Report the following:

Based on scientifically accepted and well documented indicators and the information provided to me at this time, it is my opinion, within a reasonable degree of fire science certainty, that plaintiff Republic Service of Indiana's expert Jim Foster, failed to set forth or provide a forensic, science based and NFPA 921

³¹ Ex. I, p. 15-16.

³² Ex. I, p. 15.

³³ Ex. H, pp. 56-59, 106.

³⁴ Ex. I, p. 15-16.

compliant opinion/opinions or report with opinions related to the fire origin of the fire incident. Mr. Jim Foster's opinions as outlined in his "Report of Findings" dated December 3, 2019 and Expert Report dated November 18, 2022, specifically related to the incident fire origin, are flawed, inaccurate, unreliable and incomplete. Jim Foster's fire origin opinions are not based on the scientific method as required by NFPA 921, NFPA 1033 and accepted forensic fire investigation industry practices and standards.³⁵

Agosti further opines that "plaintiff expert Jim Foster's evidence collection from the subject fire scene, which took place on May 10, 2019, while no other parties were present, was conducted in a manner which does not follow recommended procedures in NFPA 921 or comply with accepted or recommend practices or procedures."³⁶ Agosti also testified that several identified, potential ignition sources, including branch circuit wiring, junction boxes with conductors, circuit breaker panels, lighting fixtures, electric fans and other building electrical components were all equally potential ignition sources as potentially causing the fire as they could not be eliminated.³⁷ Agosti further testified, as outlined in his report, it is inaccurate and flawed to rule out potential ignition sources "just by virtue of someone walking through an area 30 minutes, an hour, 2 hours, 3 hours earlier, for example, all that tells me is that nothing was going on at that time."³⁸

Space-Ray's Engineering Expert, Scott Jones

The Space-Ray infrared tube heaters created no conditions that were causal to the fire.³⁹ The Space-Ray infrared heaters were eliminated as a potential ignition source by Space-Ray's expert, Scott Jones.⁴⁰ According to Scott Jones, the internal surfaces of the heaters were not contaminated by paint residue as the air flowing through the heaters was obtained from outside and exhausted outside. Jones stated that the heaters were installed in a direct-vent configuration

³⁵ Ex. F, pp. 5-6.

³⁶ *Id.*

³⁷ Deposition of Michael Agosti is attached as Exhibit K, pp. 226-227.

³⁸ Ex. K, pp. 206-208.

³⁹ Expert Report of Scott Jones and C.V. are attached as Exhibit L, p. 15; Deposition of Scott Jones is attached as Exhibit M, pp. 58, 101.

⁴⁰ Ex. M, p 58.

whereby combustion air was obtained from uncontaminated air outside the heated space. This configuration was a manufacturer's recommended configuration according to Jones.⁴¹

Republic's Electrical Engineer, John Diggle

Diggle testified that the electrical was not collected and that he could not rule out electrical as the cause of fire due to the extensive damage to the electrical systems.⁴²

Sheboygan Blue Aqua Enamel Paint

Sheboygan Blue Aqua Enamel Paint is a water based, zero flammability rating, non-combustible product that does not sustain combustion.⁴³ Sheboygan Blue Aqua Enamel Paint is a water-based paint and is not flammable or combustible in its wet or dry form.⁴⁴ Sheboygan Blue Aqua Enamel Paint, in either liquid or solid form, does not support combustion.⁴⁵

There are no expert opinions that the Sheboygan Blue Aqua Enamel Paint is actually flammable or combustible. Michael Vergon (Space Ray's Fire Investigator), Sheree Wells (Republic's Fire Debris Forensic Scientist), Michael Agosti (Coe's Fire Investigator), and Laurel Mason (Coe's Fire Debris Forensic Scientist) determined that the Sheboygan Blue Aqua Enamel Paint is not actually flammable or combustible.⁴⁶ Sheree Wells' flame test was negative. Vergon tested the flammability and combustibility of the paint at the scene of the fire and the Paint was not flammable or combustible.⁴⁷ Terry Reader, a Republic employee that worked in Building 1 welding and painting dumpsters in the months before the fire, testified that the Sheboygan Blue Aqua Enamel never started on fire and was not combustible based on real-world applications in

⁴¹ Ex. L, p. 15.

⁴² Deposition of John Diggle is attached as Exhibit N, pp. 21-24.

⁴³ Ex. E, pp. 101-104; Ex. F, pp. 5-6; Ex. I, pp. 15-16; Ex. J.

⁴⁴ Ex. E, pp. 101-104; Ex. F, pp. 5-6; Ex. I, pp. 15-16; Ex. J; Ex. G, pp. 21-23, 25, 27, 29; see also Technical Data Sheet for Sheboygan Blue Aqua Enamel Paint.

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ Ex. E, pp. 101-104.

either the Paint's wet or dry form prior to the fire, including during welding with plasma torch and acetylene torch through the paint.⁴⁸

III. STANDARD OF REVIEW

A district court is under an obligation to review independently the criteria listed in the Federal Rules of Evidence to determine whether expert testimony exhibits indicia of reliability sufficient to warrant its admission as evidence. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 596–97 (1993). Therefore, any “assessment of the admissibility of expert witness testimony begins with Federal Rule of Evidence 702 and the Supreme Court’s opinion in *Daubert*, as together they govern the admissibility of expert witness testimony.” *Krik v. Exxon Mobil Corp.*, 870 F.3d 669, 673 (7th Cir. 2017).

Rule 702 states:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

In *Daubert*, the Supreme Court interpreted Rule 702 to require “the district court to act as an evidentiary gatekeeper, ensuring that an expert’s testimony rests on a reliable foundation and is relevant to the task at hand.” *Krik*, 870 F.3d at 674 (citing *Daubert*, 509 U.S. at 589). This is because “[e]xpert evidence can be both powerful and quite misleading because of the difficulty in

⁴⁸ Deposition of Terry Reader is attached as Exhibit O, pp. 38-39, 63-65.

evaluating it.” *Daubert*, 509 U.S. at 595 (quoting Jack B. Weinstein, Rule 702 of the Federal Rules of Evidence Is Sound; It Should Not Be Amended, 138 F.R.D. 631, 632 (1991)). This is particularly true in cases such as this involving expert testimony “on the ultimate issue of fact.” See *United States v. Navarro*, 90 F.3d 1245, 1260 n.14 (7th Cir. 1996) (internal citations omitted).

The district court’s “‘gatekeeping’ obligation … applies not only to testimony based on ‘scientific’ knowledge, but also to testimony based on ‘technical’ and ‘other specialized’ knowledge.” *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141 (1999). In performing its gatekeeper role under Rule 702 and *Daubert*, the district court must determine whether the witness is qualified; whether the expert’s methodology is scientifically reliable; and whether the testimony will assist the trier of fact to understand the evidence or to determine a fact in issue. *Myers v. Ill. Cent. R.R. Co.*, 629 F.3d 639, 644 (7th Cir. 2010). The district court must evaluate: (1) the proffered expert’s qualifications; (2) the reliability of the expert’s methodology; and (3) the relevance of the expert’s testimony. *Gopalratnam v. Hewlett-Packard Co.*, 877 F.3d 771, 784 (7th Cir. 2017). Notably, “[t]he party seeking to introduce the expert witness testimony bears the burden of demonstrating that the expert witness testimony satisfies the [Daubert] standard by a preponderance of the evidence.” *Gopalratnam*, 877 F.3d at 782 (emphasis added).

IV. ARGUMENT

A. Foster is not qualified to rule out an electrical cause of the fire as he is a fire investigator and not an electrical engineer.

The first step for the gatekeeper, this Court, under *Daubert* is determine whether the witness is qualified and to evaluate the proffered expert’s qualifications. *Gopalratnam*, 877 F.3d at 784. Foster is a fire investigator and is not an electrical engineer. Foster’s professional background is as Certified Fire Investigator with an educational background in fire investigation. See Foster’s C.V. attached as Exhibit A. Foster ruled out an electrical cause of the fire by surmising

that nothing powered by electricity was running at the time of the fire in Building 1. This ignores the fact that electricity continues to run through outlets and the entire electrical system even if nothing is “turned on”. Plus, it ignores the fact that the infrared tube heaters were powered by electricity and connected to the Building 1’s electrical system. It is undisputed that electricity was still flowing into Building 1 at the time of the fire.

To properly rule out electrical, Foster would need to rely on the opinions of an electrical engineer. An electrical engineer is necessary to collect and test the electrical components to determine if they played a role in the fire. The electrical components and conduits were not even collected from the scene of the fire. The electrical engineer originally retained by Republic, John Diggle, a Professional Engineer and former co-worker at Rimkus with James Foster, testified that he could not rule out electrical as a cause of fire due to the extensive damage to the electrical systems. Foster did not properly rule out an electrical cause of fire and any opinions of Foster that purport to rule out electrical should be excluded as he is not qualified to make such opinions.

B. Foster’s methodology for his point of origin and causation opinions for the fire at Republic’s Building 1 is unreliable.

Under Seventh Circuit precedent, courts should evaluate the reliability of a qualified expert’s testimony by considering, amongst other factors: “(1) whether the proffered theory can be and has been tested; (2) whether the theory has been subjected to peer review; (3) whether the theory has been evaluated in light of potential rates of error; and (4) whether the theory has been accepted in the relevant scientific community.” *Krik*, 870 F.3d at 674 (quoting *Baugh v. Cuprum S.A. de C.V.*, 845 F.3d 838, 844 (7th Cir. 2017)). In addition, the “Rule 702 advisory committee’s note to the 2000 amendment outlines other benchmarks relevant in assessing an expert’s reliability:

(5) whether “maintenance standards and controls” exist; (6) whether the testimony relates to “matters growing naturally and directly out of research they have conducted independent of the litigation,” or developed “expressly for purposes of

testifying”; (7) “[w]hether the expert has unjustifiably extrapolated from an accepted premise to an unfounded conclusion”; (8) “[w]hether the expert has adequately accounted for obvious alternative explanations”; (9) “[w]hether the expert is being as careful as he would be in his regular professional work outside his paid litigation consulting”; and (10) “[w]hether the field of expertise claimed by the expert is known to reach reliable results for the type of opinion the expert would give.”

Gopalratnam, 877 F.3d at 784 (internal citations omitted) (quoting Fed. R. Evid. 702 advisory committee's note to 2000 amendment).

“[T]here are many different kinds of experts, and many different kinds of expertise.” *Kumho Tire*, 526 U.S. at 150. The test of reliability, therefore, “is ‘flexible,’ and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case.” *Daubert*, 509 U.S. at 594. In the end, “the gatekeeping inquiry must be ‘tied to the facts’ of a particular ‘case,’” *Kumho Tire*, 526 U.S. at 150, (quoting *Daubert*, 509 U.S. at 591), and “the reliability analysis should be geared toward the precise sort of testimony at issue and not any fixed evaluative factors.” *Lees v. Carthage Coll.*, 714 F.3d 516, 521 (7th Cir. 2013).

At the same time, this flexibility is not without limit. “[T]he district court's role as gatekeeper does not render the district court the trier of all facts relating to expert testimony. ... The jury must still be allowed to play its essential role as the arbiter of the weight and credibility of expert testimony.” *Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 765 (7th Cir. 2013) (internal citations omitted). Rather, “Rule 702's reliability elements require the district judge to determine only that the expert is providing testimony that is based on a correct application of a reliable methodology and that the expert considered sufficient data to employ the methodology.” *Id.* at 766.

The focus is on principles and methodology and not on the conclusions that the principles and methodology generate. *Daubert*, 509 U.S. at 595. However, Rule 702 explicitly requires that

expert testimony be “based on sufficient facts or data.” Fed. R. Evid. 702. It is recognized that the line between conclusions and methodology “is not always an easy line to draw.” *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). Additionally, Rule 702 requires the district court to review the reliability of an expert’s conclusions when appropriate:

[C]onclusions and methodology are not entirely distinct from one another. Trained experts commonly extrapolate from existing data. But nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.

Gen. Elec. Co., 522 U.S. at (citation omitted). “[A]n opinion has a significance proportioned to the sources that sustain it,” *Huey v. United Parcel Serv.*, 165 F.3d 1084, 1087 (7th Cir. 1999), and consequently an expert opinion that lacks a proper factual foundation is little more than “unscientific speculation offered by a genuine scientist,” and thus is both unreliable and inadmissible. *Rosen v. Ciba-Geigy Corp.*, 78 F.3d at 316, 318 (7th Cir. 1996). There must be a “rational connection between the data and the opinion.” *Gopalratnam v.* 877 F.3d at 778–81.

NFPA 921 is “a comprehensive, peer-reviewed, and detailed guide for fire investigation, and [courts] have held that its methodology is reliable for purposes of Rule 702.” *State Farm Fire & Cas. Co. v. Electrolux Home Prods., Inc.*, No. 3:08-CV-436, 2013 WL 3013531, at *17 (N.D. Ind. June 17, 2013)); *see also Abu-Hashish v. Scottsdale Ins. Co.*, 88 F. Supp. 2d 906, 908 (N.D. Ill. 2000) (stating that NFPA 921 is “a recognized guide for use by fire investigators in the fire investigation process”). NFPA 921 § 4.2 recommends that fire investigators use a “systematic approach” that is based on the scientific method used in the physical sciences. *Abu-Hashish*, 88 F. Supp. 2d at 908. The systematic approach tells fire investigators to follow several steps, which are: “(1) identify the problem; (2) define the problem; (3) collect data; (4) analyze the data; (5) develop a hypothesis; (6) test the hypothesis; and (7) following any repeated rounds of refining

and testing the hypothesis, select the final conclusion.” *Electrolux Home Prods.*, 2013 WL 3013531, at *18 (internal citations omitted). The scientific method provides an organizational and analytical process that is necessary in a successful fire investigation. NFPA 921 § 4.2.

1. Foster’s methodology for determining the point of origin of the fire is unreliable.

NFPA 921 § 3.3.142 defines “Point of Origin” as “[t]he exact physical location within the area of origin where a heat source and a fuel first interact, resulting in a fire or explosion.” NFPA 921 § 18.1.2 lists (1) witness information and/or electronic data, (2) fire patterns, (3) arc mapping, and (4) fire dynamics as sources of information relevant the origin determination. See NFPA § 4.3.7 (explaining investigators should ensure that “all feasible alternate hypotheses have been considered and eliminated”). NFPA § 4.5 states that the “level of certainty describes how strongly someone holds an opinion (conclusion)” and that the “level of certainty may determine the practical application of the opinion, especially in legal proceedings.” NFPA § 4.5.1 states the following:

The investigator should know the level of certainty that is required for providing expert opinions. Two levels of certainty commonly used are probable and possible:

(1) Probable. This level of certainty corresponds to being more likely true than not. At this level of certainty, the likelihood of the hypothesis being true is greater than 50 percent.

(2) Possible. At this level of certainty, the hypothesis can be demonstrated to be feasible but cannot be declared probable. If two or more hypotheses are equally likely, then the level of certainty must be “possible.”

In his Reports, Foster opines “charring and heat damage to the east tube heater was greater than damage to the other tube heaters....[t]his indicates that fire origin occurred in the east heater.” Later in his Report, Foster opines that the discoloration of the metal indicated the fire started high in the building and that “[i]nformation from employees indicted [sic] the fire was high in the

building upon discovery....[t]his combined with the fire damage to the south heater that was at ceiling level indicate the **possible** location of the fire origin." (emphasis added). Foster testified during his deposition that his Reports should have stated probable instead of possible. However, he had no explanation (other than mistake) for why two Reports over a period of three (3) years were never changed from a "possible" place of origin. NFPA 921 and simple logic dictates that you cannot have a possible point of origin for a fire yet still have a probable cause of the fire, which is essentially what Foster opines in his Reports. As defined by NFPA § 4.5.1, stated *supra*, possible simply means that the hypothesis can be demonstrated to be feasible but cannot be declared probable. A location of origin that is simply possible is not sufficient to determine a probable cause of the fire. Further, a possible place of origin is not a sufficient level of certainty to survive a challenge on scientific reliability.

Foster's Reports do not specifically identify what interviews with employees provided the relied upon information as to the fire's origin. The employee of Republic that first witnessed the fire, Samir Dizdarevic, was deposed in this case but Foster did not review the deposition testimony in preparation of his "possible" origin opinion. Samir's deposition testimony directly conflicts with Foster's purported place of origin. Samir's testimony is consistent with the fire originating in the storage room and not the paint bay. Samir described first seeing flames at the roof line and coming out of overhead garage door to the storage room.⁴⁹ This was addressed by Fire Investigator Michael Vergon in his Report. Vergon's opinion is that the data supports fire origination within the storage room and not the paint bay. Vergon further stated that given "the amount of destruction, building collapse and burning in this case, any fire patterns observed in a case such as this should not be given any weight regarding the fire's origin."⁵⁰ According to Vergon during his deposition:

⁴⁹ Deposition of Samir Dizdarevic is attached as Exhibit P, pp. 36, 59-60.

⁵⁰ Ex. F, p. 78.

A Because when you have full collapse, burning of a building, patterns really don't mean anything. There's no localized pattern. The whole building is a burn pattern. The whole building is gone. Everything in it is burned. So how can you look at one -- it's not, I'll say, it's not possible to look at one little area of a pattern on a piece of metal and say, this is more discolored than another piece because fire dynamics is such that if the fire had been contained into a certain area and -- and patterns had developed, oxidation patterns on metal or charring on wood were preserved and localized, absolutely you can say that those patterns matter and you could tell where the fire originated. Then likely maybe get to determine a cause of the fire eventually down the road. But in a case like this, you might have a fire develop in, let's just say the west side of the building. And then as the fire progresses and the building collapses and the fire department's arriving, they're trying to extinguish the fire wherever they best can. The east side of the building at that point may have been collapsed and stuff is continuing to burn there that the fire department can get to, maybe buried under a roof or debris. And that's continuing to burn and create patterns that's far, far removed from the area of origin of the fire. And so you could have actually worse and more severe burning and -- and more, I'd say, greater, you know, greater fire extent damage at the side of the building that's complete opposite side of the building from your area of origin by that point -- by that point in the fire. So -- so for anyone to say that they can -- they could have gone to this fire scene and looked at patterns and I don't want -- I'm trying not to be too critical of Investigator Foster's investigation or him personally. But it's -- it's kind of ludicrous.⁵¹

Fire Investigator Michael Agosti was equally critical of Foster's methodology for determining the origin of the fire. Agosti's opinion, within a reasonable degree of fire science certainty, is that Foster failed to set forth or provide a forensic science based and NFPA 921 compliant opinion/opinions or report with opinions related to the fire origin of the fire incident. Agosti continues further that Foster's "opinions as outlined in his "Report of Findings" dated December 3, 2019 and Expert Report dated November 18, 2022, specifically related to the incident fire origin, are flawed, inaccurate, unreliable and incomplete." Agosti stated that Foster's "fire origin opinions are not based on the scientific method as required by NFPA 921, NFPA 1033 and accepted forensic fire investigation industry practices and standards." Agosti determined that the fire origin related to the fire incident at Republic's Building 1 was only able to be determined

⁵¹ Ex. F, pp. 78-79.

within a general broad area of fire origin, and was not able to be brought down to a more specific point of fire origin due to a number of factors, including the complete building collapse and inability to rule out potential ignition sources.

Seemingly, the primary factor for Foster determining the “possible” origin of the fire in the paint area ceiling is that the infrared tube heaters were located in the ceiling of paint area. This is consistent with Foster’s overall approach, or methodology, to investigating the subject fire, which was to summarily disregard any data that conflicted with his predetermination that the infrared tube heaters were the cause of fire. If the heaters were the cause of the fire, then the origin would have to be the ceiling where the heaters were located. Vergon addressed this concern in his Report when he concluded that Foster “predetermined the cause of the fire before fully conducting adequate investigation and research” and “exhibited expectation bias in his investigation” that resulted in “confirmation bias in exclusively relying on data that supports his hypothesis”.

Foster’s methodology in arriving at his opinion as to the possible origin of the fire does not comply with NFPA 921 guidelines and is deficient under reliability requirements for expert testimony in the 7th Circuit. Foster did not use the systematic approach under NFPA 921 § 4.2 and simply arrived at the place of origin necessary to support his predetermined cause of the fire as addressed below.

2. Foster’s methodology for determining the cause of the fire is unreliable.

NFPA 921 § 4.3.6 Test the Hypothesis (Deductive Reasoning), in relevant part, is as follows:

The investigator does not have a valid or reliable conclusion unless the hypothesis can stand the test of careful and serious challenge. Testing of the hypothesis is done by the principle of deductive reasoning, in which the investigator compares the hypothesis to all known facts as well as the body of scientific knowledge associated with the phenomena relevant to the specific incident. Testing of a hypothesis should be designed to disprove, or refute, the hypothesis. Working to disprove a hypothesis is an attempt to find all the

data or reasons why the hypothesis is true. This method of testing the hypothesis can prevent “confirmation bias,” which can occur when the hypothesis or conclusion relies only on supporting data (*see 4.3.10*). A hypothesis can be tested physically by conducting experiments, analytically by applying accepted scientific principles, or by referring to scientific research....The testing process needs to be continued until all feasible hypotheses have been tested and one is determined to be uniquely consistent with the facts and with the principles of science. If no hypothesis can withstand an examination by deductive reasoning, the issue should be considered undetermined.

NFPA 921 § 4.3.7 Select Final Hypothesis is as follows:

The final step in applying the scientific method is to select the final hypothesis. Once the hypothesis has been tested, the investigator should review the entire process to ensure that all credible data are accounted for and all feasible alternate hypotheses have been considered and eliminated. When using the scientific method, the failure to consider alternate hypotheses is a serious error. A critical question to be answered is, “Are there any other hypotheses that are consistent with the data?” The investigator should document the facts that support the final hypothesis to the exclusion of all other reasonable hypotheses.

In *Gopalratnam v. Hewlett-Packard Co.*, the plaintiffs filed a products liability suit against separate manufacturers of a laptop, battery pack, and individual battery cells based on the allegation that the fire was caused by a defective lithium ion battery cell from their son's laptop. *Id.* at 775. The plaintiffs supported their causation theory solely through testimony from two expert witnesses, whom defendants later moved to exclude under Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). The district court granted defendants' motions to exclude, and entered summary judgment in their favor. The plaintiffs appealed the district court's ruling. *Id.*

The 7th Circuit Court of Appeals concluded that plaintiffs' expert (Ph.D. in inorganic chemistry and purported expert on battery safety) “failed to ‘bridge the analytical gap’ between the accepted differential appearance of the laptop battery cells and his contested conclusion that such differential appearance was caused by an internal fault in Cell A.” *Id.* at 776, 786-787. According to the Court, there is no “rational connection” between the expert's data and his opinion.

Id. at 786-787. The Court was equally critical of the “third factual basis for plaintiffs’ ‘internal fault’ opinion: that Cell A acted as a projectile.” *Id.* Although Cell A was found in one of the debris piles outside plaintiffs’ home, no one, including the plaintiffs’ expert, could establish precisely how it got there, nor where it was located prior to cleanup. *Id.*

As a result, at least two possible alternatives cut against the expert’s theory. *Id.* It was possible that Cell A was actually located near the other electronic remnants, but was simply missed by investigators and subsequently discarded with the remaining fire debris. *Id.* It was also possible that the cell originally came to rest away from the bed, but was moved there by fire suppression efforts (such as a running fire hose) rather than an explosive internal fault. Either alternative (or others) would undermine the expert’s finding that Cell A acted as a projectile, which would in turn further weaken his ultimate conclusion that an internal fault led to its failure. *Id.* at 787. What mattered according to the *Gopalratnam* Court was that the expert failed to adequately account for other possible explanations in arriving at his conclusion. See Fed. R. Evid. 702 advisory committee’s note to 2000 amendment (finding “[w]hether the expert has adequately accounted for obvious alternative explanations” to be relevant “in determining whether expert testimony is sufficiently reliable to be considered by the trier of fact”). *Id.*

Even less reliable according to the *Gopalratnam* Court was the expert’s opinion that the internal fault in Cell A was specifically caused by a manufacturing defect in the cell or a failure in the computer’s electrical circuitry. *Id.* at 787-788. The expert’s opinion was that the internal fault was caused “by either a manufacturing defect in the cell” or “a failure of the computer’s control/safety circuitry”. *Id.* However, the expert could not provide details as to what the specific defect was; why it transpired; when it occurred in the manufacturing process; or even where such manufacturing took place. *Id.* Rather, the battery safety expert simply opined that, because several

manufacturing processes “can cause” an internal short circuit, such must have occurred here. *Id.* The Court concluded that this is simply too speculative to pass muster under *Daubert* and Rule 702. *Id.* Because the battery expert’s opinions were excluded, the fire investigator’s opinions regarding the cause of the fire that relied on, and were based on, the battery expert’s unreliable methodology were also properly excluded by the district court. *Id.* at 776, 789.

The District Court’s decision in *Comer v. Am. Elec. Power*, 63 F. Supp. 2d 927, 935 (N.D. Ind. 1999) is also instructive. In *Comer*, a homeowner that suffered property damage in a house fire sued his electric utility company. *Id.* The homeowner alleged that a “voltage surge” caused by a “loose neutral” connection on the transformer that serviced the house resulted in a failure of the insulation protecting two “hot” wires, which in turn caused electricity to “arc” between the unprotected wire and the metal door of the panel distribution box. *Id.* The defendant challenged the admissibility of the testimony of the plaintiff’s expert witness, Dr. Phillip Nine, under Fed. R. Evid. 702 and *Daubert*. Dr. Nine’s testimony rested on the theory that the allegedly loose neutral caused the voltage surge, which caused an electrical arc and the resulting fire. *Id.*

According to the District Court, Dr. Nine’s ultimate conclusion rested in large part, if not entirely, upon his assertion that the insulation protecting the wires inside the panel distribution box in the plaintiff’s house was weaker than the insulation protecting the wires inside the panel distribution boxes of the other four houses connected to the transformer. *Id.* at 938. The District Court posited that at no time did Dr. Nine ever explain how it was he knew that the plaintiff’s insulation “just so happened” to be weaker than the insulation in any of the other four houses serviced by the same transformer, or even how he could draw such an inference. *Id.*

Reasoning that Dr. Nine had no factual, technical, or scientific basis for concluding that the insulation protecting the plaintiff’s wires “just so happened” to be “weaker” than the insulation

protecting any of the neighbors' wires, the District Court found that Dr. Nine's ultimate conclusion as to why the fire occurred in the plaintiff's house was "fundamentally flawed and unreliable." *Id.* at 938-939. Further, the District Court described Dr. Nine's opinion as follows: "Nine first concocted a liability theory (the loose neutral), and then went in search of facts to support it; finding no facts, he tried to plug the gap with 'a supposition,' all with a view to providing the jury with an unsupported bottom line conclusion." *Id.* The District Court held that Dr. Nine's testimony did not meet the reliability test of *Daubert* as it lacked adequate factual support and was nothing more than unsupported speculation. *Id.*

Here, like the expert in *Gopalratnam v. Hewlett-Packard Co.*, Foster failed to "bridge the analytical gap" between the data and his contested conclusion. Further, like the expert in *Comer v. Am. Elec. Power*, Foster's conclusion rested entirely upon his assumptions that Sheboygan Blue Aqua Enamel Paint collected on the infrared tube heaters before the fire (as opposed to during or after the fire) and that the Paint is flammable or combustible.

While Foster opined during his deposition that it was the dry Sheboygan Blue Aqua Enamel Paint that collected on the tube heaters and ignited, Foster was unable to identify the sequence of combustibles past the dry Sheboygan Blue Aqua Enamel Paint on the infrared tube heaters during his deposition. More importantly, Foster never even tested the flammability or combustibility of the Sheboygan Blue Aqua Enamel Paint in the Paint's wet, dry, liquid, or solid form. This failure to test his hypothesis violates both sections of NFPA 921 stated above, NFPA 921 § 4.3.6 Test the Hypothesis (Deductive Reasoning) and NFPA 921 § 4.3.7 Select Final Hypothesis. Foster did not reference or include the flame test results for the Paint conducted by Republic's own Fire Debris Forensic Scientist Sheree Wells in his Reports, which were negative. It is further evidence that Foster predetermined the cause of the fire as opined by experts Vergon, Mason, and Agosti.

Foster opines that dried Paint accumulated on the infrared tube heaters and combusted but he never even tested whether the Paint was actually flammable or combustible. As outlined in Coe's contemporaneously filed Motion for Summary Judgment, the undisputed material facts establish as a matter of law that the Sheboygan Blue Aqua Enamel Paint is not flammable or combustible in the Paint's wet, dry, liquid, or solid form in real-world conditions. Vergon, Mason, and Agosti all determined that Paint was not flammable or combustible. The Sheboygan Blue Aqua Enamel Paint is a water based paint that is made up primarily of water. Republic's own expert, Sheree Wells conducted a flame test on the Paint, which was negative for flammability and combustibility. Therefore, the theory posited by Foster is **impossible** and Foster's methodology is **unreliable**. According to Foster's own account, he was informed at the beginning that the heaters were recently installed prior to the fire and that another heating company [Korte] stated that it was inappropriate to install the infrared tube heaters in Building 1. It is undisputed that Korte not only did not state that the subject infrared tube heaters were inappropriate for Building 1 but actually concluded that the system was appropriate and quoted the same tube heating system to Republic,

The fact that Foster could not properly rule out an electrical cause of the fire as is required to ensure the reliability of his methodology and resulting causation opinion is also fatal to his opinion. Foster is a fire investigator and not an electrical engineer. Foster did not collect the electrical system from the scene, ignored the opinion of Republic's retained electrical engineer John Diggle, and summarily ruled out electrical based upon Foster's own conclusion (citing to unidentified individuals in his Reports) that no electrical devices were on at the time of fire. Diggle testified that he could not rule out electrical as a cause of fire due to the extensive damage to the electrical systems. As stated above, it is undisputed that electricity was still on in Building 1 and that electricity was still flowing through the electrical wiring, outlets, conduits and similar

electrical components at the time of fire. The subject infrared tube heating system requires electricity to operate.

Equally damaging to the reliability of Foster's methodology and resulting conclusions is his inability to properly account for when the Paint he allegedly collected off the infrared tube heaters actually accumulated on the heaters. Like the location of Cell A of the battery in *Gopalratnam*, the Paint, if any, could have accumulated on the heaters during the fire, when the building collapsed, during fire suppression efforts, or when the heaters laid unprotected from the outside elements in the fire debris for approximately two (2) months before the alleged collection. There is no "rational connection" between the Foster's data and his causation opinion as was the case in *Gopalratnam*. Further, as was the case in *Comer*, Foster's methodology and resulting opinions do not meet the reliability test of *Daubert* as they lacked adequate factual support and are nothing more than unsupported speculation.

V. CONCLUSION

For the reasons set forth above, Defendant, Coe Heating & Air Conditioning, Inc., by counsel, respectfully requests that the Court grant its Motion to Exclude Testimony of Plaintiff's Expert James Foster, and for all other just and appropriate relief.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the 28th day of April, 2023 a true and complete copy of the above and foregoing pleading or paper was made upon each party or attorney of record herein by depositing same in the United States Mail in envelopes properly addressed and with sufficient postage affixed, electronic mail or the CM/ECF system thereto:

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